Breastfeeding patient calls with nipple / breast pain

All mother / baby dyads triaged by lactation consultant phone triage protocol

Office visit
All mothers receive EPDS on arrival to pediatrics or OB clinic

EPDS screen > 10 or concern for depression?

Yes
Manage per postpartum depression protocol: 10-12 intermediate, 13+ high risk

No

LC evaluation of dyad
Assess infant oral anatomy, latch, milk transfer, breast, pumping

Evaluation and management
with NP / CNM / MD

Wedge-shaped breast erythema?

Yes
Fever, malaise, systemic symptoms?

Mastitis

Nipple fissures, yellow crust, erosions, pustules, rind over nipple that occludes ductal openings?

Bacterial infection

No
Tender, burning, red, fissures w/o exudate; itching, oozing with well-defined plaques?

Irritant dermatitis

Tender “bleb” or blister that is exquisitely sensitive to touch, latch?

Milk bleb

Palpable lump in breast that decreases in size with milk removal?

Yes
Develops gradually and is associated with localized pain

Blocked duct

No
Prior nipple trauma with persistent pain despite intact skin? Past history of Raynauds’ or migraines, cold sensitivity?

Vasospasm

Shooting pain, blanching / deep purple color changes after feeding?

Yes
Infant coughs with let down? Explosive stools, excellent weight gain? Documented appropriate milk transfer?

Oversupply

No

Functional pain

Infant pulls off breast in distress with feeds? Pain with latch, not pumping?

Yes

Infant w/ oral thrush / diaper rash / systemic candidemia?

Yes

Infra mammmary rash, itching? No response to topical mupirocin / barrier ointment for dermatitis?

Candida

Yes
Blocked duct

No
Exquisite sensitivity of nipple to light touch?

Yes

Breast tenderness with palpation without erythema?

Yes

Infant w/ oral thrush / diaper rash / systemic candidemia?

Yes

Infant coughs with let down? Explosive stools, excellent weight gain? Documented appropriate milk transfer?

Oversupply

Yes

Vasospasm

Infant w/ oral thrush / diaper rash / systemic candidemia?

Yes

Infra mammmary rash, itching? No response to topical mupirocin / barrier ointment for dermatitis?

Candida

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Candida

Yes

Infant pulls off breast in distress with feeds? Pain with latch, not pumping?

Vasospasm

No


Functional pain

Infant w/ oral thrush / diaper rash / systemic candidemia?

Yes

Infra mammmary rash, itching? No response to topical mupirocin / barrier ointment for dermatitis?

Candida

Yes

Infant pulls off breast in distress with feeds? Pain with latch, not pumping?
Breast tenderness w/ reddened, sore area that feels warm. Flu-like symptoms, generalized body aches, fatigue. Chills or fever ≥101 F orally[1]

**Mastitis**

Milk sample for aerobic culture for recurrent mastitis, ORSA risk factors, severe symptoms or at clinician discretion.

**Penicillin allergy?**

- Yes
  - **See phone triage protocol**
- No
  - **Dicloxacillin 500mg PO QID x 10 days**
  - **Cephelexin 500mg PO QID x 10 days**
  - **Clindamycin 300-450 mg PO QID x 10 days**

**Severe?**

- Yes, anaphylaxis
  - **DIC纪念馆**
- No, rash
  - **Improving after 48 hours?**
    - Yes
      - **Complete antibiotic course**
    - No
      - **SAME DAY E&M Provider Visit**
        - **Concern for abscess on physical exam?**
          - Yes
            - **Abscess diagnosed**
            - Ultrasound-guided drainage, continue nursing on affected side[2]. Incision and drainage for refractory cases.
          - No
            - **Review culture results**
              - **Organization sensitive to prescribed antibiotics**
              - **Consider ultrasound**
              - **Reconsider diagnosis**

**No cultures done**

- **Review sensitivities and treat accordingly.**
  - Advise mother that she will need to be recultured at the time of any future hospital admission.

**ORSA**

- **Review culture results**
  - **Collect milk for culture, consider empiric change of antibiotics to clindamycin, or trimethoprim / sulfamethoxazole if infant > 4 wks, for ORSA coverage.**

**Risk factors for ORSA**

- Recent hospitalization
- Residence in a long term care facility
- Recent antibiotic therapy
- Injection drug use
- Hemodialysis
- Incarceration
- Military service
- Sharing needles, razors or other sharp objects
- Sharing sports equipment
- Health care worker

**Supportive Care**

“Rest, fluids, empty the breast.” No risk to infant continuing breastfeeding during infection, risk to mom with abrupt weaning. Nurse / pump every 2-3 hours. For pain and fever, recommend: Acetaminophen 650-1000 mg q4-6 hours (maximum 4g /day) or Ibuprofen 400-600 mg q6h. Counsel patient that symptoms should improve in 24 to 48 hours. If symptoms progress after 12 hours or persist after 24-48 hours, she should be seen in OB clinic by the appropriate UOG/resident provider, or come to the ER if after hours or weekend for evaluation.
Tender, burning, red, fissures w/o exudate; itching, oozing with well-defined plaques[4].

**Dermatitis**

Physical exam

- Tender, burning, red, fissures w/o exudate, ill-defined borders
- Itching, oozing with well-defined plaques, excoriations.

**Irritant Dermatitis**

Barrier (Petrolatum, Aquaphor or Zinc Oxide) after each feed, may cover with gauze or nipple shells. Wear cotton bras. If ointment is still visible before the next feeding or pumping, wash off the nipples with water and gentle cleanser (Cetaphil, equivalent generic). **Hydrogels should not be used with any topical ointment or cream.**

For severe symptoms, apply high potency steroid – Lidex 0.05% BID x 2-3 days

**Contact dermatitis**

Remove cause – topical creams, wipes, moisturizes; assess for pattern matching pump flange. Switch to hypo-allergenic detergent. If infant eating solids, rinse nipple after feeds – food in mouth may be allergen.

Apply high potency steroid – Lidex 0.05% ointment – BID x 14 days.

Use Aquaphor between steroid doses until tissue heals. If ointment is still visible before the next feeding or pumping, wash off the nipples with water and Cetaphil cleanser.

For severe itching, consider Cetirizine (Zyrtec), balancing theoretical risk of decreased milk supply.

Not improved in 5-7 days?

- Nipples cultures for aerobic culture ± yeast screen
  - Staph or other bacterial pathogen
    - Treat per bacterial infection protocol
  - Positive yeast screen
    - Treat per yeast protocol
  - Negative culture, persistent pain
    - Skin healed?
      - yes
        - Eval for vasospasm, functional pain
      - no
        - Reevaluate suck, latch, pump use. Consider dermatology referral
    - Negative culture

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Palpable lump or knot which develops gradually and is associated with localized pain, may decrease in size with milk removal.

**Blocked Duct**

Erythema, fever, systemic symptoms?

- **Yes**
  - Mastitis protocol

- **No**
  - Pump type, flange fit prevents complete emptying?
    - **Yes**
      - New flange, different pump as indicated.
    - **No**
      - Infant jaw alignment, suck exam, cranial symmetry, spinal alignment affecting drainage?
        - **Yes**
          - Stretching exercises for torticollis, consider OT/PT/Speech referral
        - **No**
          - Position infant with chin or nose pointing toward blockage. Over 24 hours, soak affected breast before and/or after most feedings in warm (not hot!) water. Use hand massage and pump to empty breast after feeds. Wear loose-fitting bra, get plenty of rest.

  - Mass persists 10-14 days?
    - **Yes**
      - Breast ultrasound / clinic referral – page Susan McKenny, Breast Clinic NP, or radiology, 966-1081 ext 1
    - **No**
      - Persistent plugging, no dominant mass

Recurrent/persistent blocked ducts: Consider Lecithin 1200 mg TID-QID
Consider cultures / systemic antibiotics.

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Nipple “bleb” or blister that is exquisitely sensitive to touch, latch?

**Milk bleb**

- Blocked duct?
  - Yes → Blocked Duct Protocol
  - No → Soak nipple before and/or after most feedings in warm (not hot!) water. Mupirocin per bacterial infection protocol

  - 5-7 days → No improvement?
    - Yes → Unroof bleb with sterile needle after prepping nipple with alcohol wipe. Tx w/ mupirocin x 7 days.
    - No recurrent/persistent blocked ducts: Consider Lecithin 1200 mg TID-QID
      - Consider cultures / systemic antibiotics.
Shooting pain, blanching / deep purple color changes after feeding? Prior nipple trauma with persistent pain despite intact skin? [5] Past history of Raynaud’s or migraines, cold sensitivity?

Vasospasm

Supportive measures:
After each feed / milk expression, cover breasts and apply heating pad on low or warm rice sock for 5 minutes. Eliminate vasoconstrictive meds (sudafed, caffeine), increase ambient temperature, dress warmly. F/u 7-10 days

Continue supportive measures PRN

Yes

Response to supportive measures

Partial

No

Response to treatment?

Yes

If history of Raynaud’s symptoms in hands/feet, notify primary provider / consider workup for Raynaud’s associated autoimmune disease

No

Reevaluate suck, latch, pump use, consider alternate diagnoses

Persistent pain

Functional Pain
Infant pulls off breast in distress with feeds?
   Pain with latch, not pumping?
   Infant coughs with let down? Fussy, colicky baby with reflux, short, frequent feeds, green or mucousy stools, excellent weight gain? Documented appropriate milk transfer? Onset 3-6 wks pp? [6-7]

**Oversupply**

- Overactive milk letdown?
  - Yes
    - Let down into burp cloth before latching baby
  - No
    - Overproduction?
      - Yes
        - Supportive measures:
          - Reduce pumping, consider alternating sides for feeds, warmth to breast after feeds per vasoconspasm protocol, ibuprofen 400-600mg q4-6 hours. Follow-up 7-10 days.
      - No
        - Response to supportive measures?
          - Yes
            - Continue to alternate breast with feeds, reduce heat / NSAIDs as tolerated.
          - Partial
            - Infant > 3 weeks old?
              - Yes
                - Consider full drainage and/or scheduled block feeds to decrease supply.
              - No
                - If breast tender with palpation, obtain milk and nipple cultures and send for aerobic culture
          - No
            - Positive culture for single organism?
              - Yes
                - Treat per sensitivities using ductal infection protocol
              - No
                - Reevaluate suck, latch, pump use, consider alternate diagnoses

Full drainage / scheduled block feeds
Using a double electric pump, empty both breasts completely. Feed baby on both sides after drainage. This provides infant slow-flow, fat-rich hind milk.

Following full drainage, block feed by offering infant one breast for all feedings for 3 hours, and then switch to the other breast. Gradually increase the length of the blocks as needed to down-regulate milk production.


**Functional Pain**

Ibuprofen 600-800 mg QID for inflammation.
Counsel re mindfulness, deep breathing, “Suffering = pain x resistance”
Consider massage for trigger-point release.

History of allergies / dermatographia?

Yes → Non-sedating anti-histamine

No →

Improvement?

Yes → Taper ibuprofen as tolerated.

No →

Propranolol 20 mg TID for centrally mediated pain syndrome [8], maximum dose 240mg/QD
Tricyclic antidepressant – Nortriptyline 25-50 PO QHS, titrate up q2-3 days, maximum dose 150mg/day. Taper gradually to discontinue
SNRI – Duloxetine (Cymbalta) – start 30 mg PO QD x 1 week, increase to 60 mg QD

Persistent symptoms?

Referral to chronic pain specialist or acupuncture provider.

UNC resources: Referral to Denniz Zolnoun for pain mapping eval or Ken Morehead for trial of acupuncture for refractory nipple / breast pain.

**Functional dysautonomia / Centrally mediated pain syndromes [9,10]**

Non-painful
- Syncope
- Postural Tachycardia Syndrome (POTS)
- Chronic Fatigue Syndrome
- Cyclic Vomiting Syndrome

Painful
- Functional Dyspepsia
- Functional Abdominal Pain
- Abdominal Migraine
- Migraine Headache
- Irritable Bowel Syndrome (IBS)
- Interstitial Cystitis
- Complex Regional Pain Syndrome (CRPS)
- Raynaud’s Syndrome
- Fibromyalgia
- Myofascial Pelvic Pain
Deep pulling, throbbing pain after feeding, tenderness on breast palpation, pain with manual expression

**Ductal infection**

Obtain milk and nipple cultures for aerobic culture ± yeast screen

Supportive measures: Warmth to breast after feeds per vasospasm protocol, ibuprofen 400-600mg q4-6 hours. Follow-up 5-7 days.

Gradually taper heat / NSAIDs as tolerated.

Response to supportive measures?

Yes

No

Positive culture?

Bacteria

Treat per sensitivities with narrowest spectrum antibiotic x 14 days

No

Yes

Yeast

Treat with oral diflucan per yeast protocol

No

Yes

Clinical response?

Partial

No

Yes

Healthy infant >4 wks, no h/o Sulf allergy or G6PD deficiency?

Yes

Consider trimethoprim / sulfamethoxazole DS 1 tab BID x 14 days

No

Consider empiric treatment for chronic bacterial lactiferous duct infection:

- cephelexin 500 mg QID,
- dicloxacillin 500 mg QID,
- erythromycin 500 mg QID,
- amoxicillin/clavulonate 875 mg BID x 14 days

In case series, some women reported resolution after >6 weeks of antibiotics[11]

**Candida**

Topical or systemic antifungal used in past 24-48 hours?

- Yes
  - Suspect resistant candida?
    - No
      - Defer cultures until 48 hours after last dose of antifungal.
    - Yes
      - Infant with signs of oral thrush: White plaques on buccal mucosa and/or palate.

- No
  - Obtain nipple and milk cultures and send for aerobic culture and yeast screen

Assess infant

Topical antifungal vs. mupirocin treatment while awaiting cultures

- Treat with topical mupirocin[13], clotrimazole or ketoconazole applied to breast after each feed x 14 days. Review contact dermatitis precautions
  - If pain with application of Ketoconazole, switch to Clotrimazole or nystatin.

Review final yeast screen and culture results

- Negative culture or skin flora?
  - Reevaluate suck, latch, pumping, consider alternate diagnoses
- Bacterial infection?
  - Treat per sensitivities for bacterial ductal infection
- Positive yeast screen, persistent symptoms
  - Fluconazole 200 mg x 1, then 100 mg qd x 13 days. Check LFTs if history of HELLP/ Preclampsia/liver disease. Ensure patient’s complete medication list is in WebCis for drug interaction assessment.
    - Not improved after 7-10 days?
      - Reculture milk and nipples for yeast and bacteria. Reevaluate latch, pump use. Consider alternative diagnoses
      - Laboratory evidence of persistent yeast?
        - Check CBC, LFTs. Fluconazole 400 mg x 1, then 200 mg qd x 13 days. Neutropenic precautions.
**LC Phone Triage: Pain**

**Infant with inadequate output in last 24 hours?**
- Yes → Same-day evaluation in pediatric clinic or ED if after hours
- No → Infant with weight loss / inadequate gain?

**Infant with weight loss / inadequate gain?**
- Yes → Schedule evaluation in pediatric clinic within 24 hours
- No → Breast tenderness w/ reddened, sore area that feels warm, Flu-like symptoms, generalized body aches, fatigue, Chills or fever ≥101 F orally

**Breast tenderness w/ reddened, sore area that feels warm, Flu-like symptoms, generalized body aches, fatigue, Chills or fever ≥101 F orally?**
- Yes → Manage per mastitis phone triage protocol
- No →
  - Infant > 2 weeks old?
  - Nipples with bleeding, cracks, scabs or yellow crust?
  - Pain >8/10?
  - Pain worsening or lasting more than 3-5 days?
  - Pain worsens after initial latch?
  - Pain causing mom to turn away from shower, avoid towel-drying nipples?

- Yes → Schedule evaluation in pediatric clinic within 24-48 hours
- No → Dyad candidate for trial of supportive care measures

**Dyad candidate for trial of supportive care measures**

**Palpable lump or knot which develops gradually and is associated with localized pain, may decrease in size with milk removal. White plug at the ductal opening.**
- Yes → Position infant with chin or nose pointing toward blockage. Over 24 hours, soak nipple before and/or after most feedings in warm (not hot!) water; use hand massage and pump to empty breast after feeds.
- No → Infant with pediatric-provider-diagnosed oral candida or candidal diaper rash?

**Infant with pediatric-provider-diagnosed oral candida or candidal diaper rash?**
- Yes → Lotrimin AF to nipples after every feeding
- No → Using Lanolin or other OTC nipple cream or ointment without any relief?

**Using Lanolin or other OTC nipple cream or ointment without any relief?**
- Yes → Discontinue OTC creams / ointments
- No → Upright football hold. Apply heating pad x 5 minutes, followed by Aquaphor / vaseline to nipples, after each feed.

**Pain not markedly improved in 48-72 hours?**
- Yes → Call Warmline to schedule evaluation in pediatric clinic within 24-48 hours
- No →
References